ABSTRACT OF THE DISCLOSURE

A two dimensional vernier is provided along with a method of fabrication. The two dimensional vernier has a reference array patterned into a substrate, or a material overlying the substrate. An active array is patterned into photoresist overlying the substrate or the material. Both the reference array and the active array each comprise a two dimensional array of shapes. A difference between a combination of size or spacing of the shapes in each array determines vernier resolution. Vernier range is determined by a combination of vernier resolution and an integer related to a total number of shapes along a given axis. The two dimensional vernier allows an operator to readily measure the misalignment of a pattern to be processed relative to a previous pattern in two dimensions using a microscope. The two dimensional vernier reduces, or eliminates, repositioning of the microscope to determine both x-axis misalignment and y-axis misalignment. If a significant misalignment is detected the photoresist can be stripped and the lithography step repeated prior to subsequent processing, and possible yield reduction.